This application is a continuation-in-part of U. S. s rial numb r 09/580,105 filed May 30, 2000, now U.S. Patent No. 6,399,107; and claims the b n fit of U.S. Provisional Application no. 60/172,840 filed December 20, 1999; U.S. Provisional Application No. 60/201,936 filed May 5, 2000; U.S. Provisional Application No. 60/201,937 filed May 5, 2000; and U.S. Provisional Application No. 60/231,474 filed September 8, 2000.

In the Claims:

Please cancel claims 4, 5, 8 and 13 without prejudice or disclaimer.

Please amend the following claims:

1. (Amended) A method for the analysis of a sample comprising:

(a) applying a sample on a deposited continuous thin film; and

(b) analyzing said sample by radiation-driven desorption-ionization mass spectroscopy.

2. (Amended) A method according to claim 1, wherein said sample is selected from the group consisting of: organic chemical compositions, inorganic chemical compositions, biochemical compositions, drugs, drug metabolites, cells, cell material, micro-organisms, peptides, polypeptides, proteins, lipids, carbohydrates, nucleic acids, and combinations thereof.

3. (Amended) A method for sample analysis according to claim 2, further comprising obtaining said sample from the group consisting of: a fluidic system, a micro fluidic system, a nano fluidic system, a micro chromatographic system, a nano

chromatographic system, a high-throughput isolation and preparation system, and combinations thereof.

6. (Amended) A method according to claim 1, wherein said deposited thin film selected from the group consisting of: semiconductors, insulators, organic materials, glasses, plastics, polymers, metals, ceramics and combinations thereof.

7. (Amended) A method according to claim 1, further comprising the step of selecting said deposited continuous thin film using criteria selected from the group consisting of: electromagnetic energy reflection, electromagnetic energy absorption, sample wetting and drying, laser-light reflection, optical absorption, sample species absorption and desorption, ambient adsorption, absorption and desorption, and combinations thereof.

9. (Amended) A method according to claim 1, further comprising modifying said deposited continuous thin film prior to analyzing said sample by oxidation, halidation, silicidation, etching, ion implantation, hydrogen implantation, nitridization, and combinations thereof.

10. (Amended) A method according to claim 1, further comprising, physically or chemically modifying, surface functionalizing, or patterning said continuous thin film prior to analyzing said sample.

11. (Amended) A method according to claim 10, wherein patterning said continuous thin film is by: lithography comprising photolithography, probe, contact printing, imprinting, soft lithography; stamping; screen masking; printing or physically modifying said film or a subsequently positioned sample.

12. (Amended) A method according to claim 10 wherein said physically or chemically modifying comprises reaction with or adherence with organic or inorganic compounds, cells, cell components, tissues, microorganisms and combinations thereof.

14. (Amended) A method according to claim 1, wh rein analyzing said sample is by laser desorption-ionization mass spectroscopy.

15. (Amended) A method according to claim 1, wherein prior to analyzing said sample, a signal enhancing agent is integrated with said sample.

16. (Amended) A method according to claim 15 wherein said signal enhancing agent is ammonium citrate.

17. (Amended) A method according to claim 1, wherein applying said sample to said continuous thin film is by either (a) absorbing from a solid, liquid or gas; or (b) directly applying to the surface of said deposited continuous thin film as a solid or liquid, or combination thereof.

18. (Amended) A method according to claim 17 wherein applying said sample to said continuous thin film is directly from, or integrated with, a chemical, physical, or electrical separation means, or combination thereof.

19. (Amended) A method according to claim 18 wherein said chemical, physical or electrical separation means is selected form the group consisting of liquid chromatography, gas chromatography, deposited thin film chromatography, size exclusion chromatography, affinity chromatography, gel electrophoresis, capillary or micro-capillary electrophoresis, blotting, and combinations thereof.

20. (Amended) A method according to claim 19 wherein applying said sample to said continuous thin film directly from, or integrated with, a deposited thin film chromatography separation means further comprises the step of:

(a) applying said sample to said deposited thin film chromatography separation means;

(b) allowing th analytes of said sample to migrate through or to interact with said deposited thin film thereby separating component analytes in said sample, and thereafter applying said analytes of said sample to said continuous deposited thin film.

21. (Amended) A method according to claim 20 wherein the said deposited thin film is chemically or physically modified prior to separating component analytes in said sample.

Please add the following new claims:

66. (New) A method according to claim 1, wherein said deposited continuous thin film is deposited on a substrate selected from the group consisting of silicon, semiconductors, insulators, organic materials, glasses, plastics, polymers, metals, ceramics, and combinations thereof.

67. (New) A method according to claim 1, wherein said deposited continuous thin film is deposited by chemical vapor deposition, physical vapor deposition, plasma enhanced chemical vapor deposition, hot wire deposition, nebulization, evaporation, sputtering, casting, spin coating, and combinations thereof.

68. (New) A method according to claim 6, wherein said deposited thin film is a semiconductor selected from the group consisting of silicon, germanium, or their compounds and alloys deposited on a substrate selected from the group consisting of silicon, semiconductors, insulators, organic materials, glasses, plastics, polymers, metals, ceramics and combinations thereof.

69. (New) A method according to claim 2, wherein said sample is a gas, liquid, solid, or combination thereof found in the general indoor environment, general outdoor environment, a process environment, and equipment environment.

70. (New) A method according to claim 2, wherein said sampl is a cell, plurality of cells, tissue, components thereof, and combinations thereof.

71. (New) A method for the analysis of a sample comprising:

(a) applying a sample on a deposited columnar/void thin film; and

(b) analyzing said sample by a detection means selected from the group consisting of radiation-driven desorption/ionization mass spectroscopy, antigen-antibody recognition reaction techniques, colorimetric detection, atomic force microscopy, spectrographic analysis, enzyme reaction detection, electrical detection, chemical detection, fluorescence detection, optical detection, radioactivity detection, and combinations thereof.

72. (New) A method according to claim 71, wherein said sample is selected from the group consisting of: organic chemical compositions, inorganic chemical compositions, biochemical compositions, drugs, drug metabolites, cells, micro-organisms, peptides, polypeptides, proteins, lipids, carbohydrates, nucleic acids, and combinations thereof.

73. (New) A method according to claim 72, further comprising obtaining said sample from a fluidic system, a micro fluidic system, a nano fluidic system, a micro chromatographic system, a nano chromatographic system, a high-throughput isolation and preparation system, and combinations thereof.

74. (New) A method according to claim 71 wherein said deposited columnar-void film comprises (a) a network of columnar-like units in a continuous void; and (b) a substrate to which said network of columnar-like units is adhered.

75. (New) A method according to claim 71, wherein said deposited columnar-void thin film is selected from the group consisting of: semiconductors, insulators, organic materials, glasses, plastics, polymers, metals, ceramics and mixtures thereof.

76. (New) A method according to claim 71 further comprising the step of selecting said deposited columnar-void thin film using criteria selected form the group consisting of: laser-light reflection, optical absorption, sample species adsorption, absorption and desorption, ambient adsorption, absorption and desorption, and combinations thereof.

77. (New) A method according to claim 71, wherein said film is deposited by a plasma process and the spacing, height, physical and chemical composition of said network of columnar-like units are varied by adjustment of the deposition parameters selected from the group consisting of: voltage, current, voltage between plasma and substrate, substrate temperature, plasma power, process pressure, electromagnetic fields in the vicinity of the substrate, deposition gases and flow rates, chamber conditioning, substrate surface, and combinations thereof.

78. (New) A method according to claim 71, further comprising modifying said deposited columnar-void thin film prior to analyzing said sample by oxidation, halidization, silicidation, etching, ion implantation, hydrogen implantation, nitridization, and combinations thereof.

79. (New) A method according to claim 71, further comprising, physically or chemically modifying, surface functionalizing, or patterning said columnar-void thin film prior to analyzing said sample.

80. (New) A method according to claim 79, wherein patterning said columnar-void thin film is by: lithography comprising photolithography, probe, contact printing, imprinting, soft lithography; stamping; screen masking; printing or physically modifying said film or a subsequently positioned sample.

81. (New) A method according to claim 79 wherein said physical or chemical modifying comprises reaction with or adherence with organic or inorganic compounds, cells, cell components, tissues, microorganisms and mixtures thereof.

82. (New) A method according to claim 71, wherein analyzing said sample is by laser desorption-ionization, time of flight mass spectroscopy.

83. (New) A method according to claim 71, wherein prior to analyzing said sample, a signal enhancing agent is integrated with said sample.

84. (New) A method according to claim 83 wherein said signal enhancing agent is ammonium citrate.

85. (New) A method according to claim 71, wherein applying said sample to said continuous-void thin film is by either (a) absorbing from a solid, liquid or gas; or (b) directly applying to the surface of said deposited columnar-void thin film as a solid or liquid, or combination thereof.

86. (Amended) A method according to claim 85 wherein applying said sample to said columnar-void thin film is directly from, or integrated with, a chemical, physical, or electrical separation means, or combination thereof.

87. (New) A method according to claim 86 wherein said chemical, physical or electrical separation means is selected from the group consisting of liquid chromatography, gas chromatography, deposited thin film chromatography, size exclusion chromatography, affinity chromatography, gel electrophoresis, capillary or micro-capillary electrophoresis, blotting, and combinations thereof.

88. (New) A method according to claim 87 wherein applying said sample to said columnar-void thin film directly from, or int grated with, a deposited thin film chromatography separation means further comprises the step of:

(c) applying said sample to said deposited thin film chromatography separation means;

(d) allowing the analytes of said sample to migrate through or to interact with said deposited thin film thereby separating component analytes in said sample, and thereafter applying said analytes of said sample to said continuous deposited thin film.

89. (New) A method according to claim 88 wherein the said deposited thin film is chemically or physically modified prior to separating component analytes in said sample.

90. (New) A method according to claim 71, wherein said deposited columnar-void thin film is deposited on a substrate selected form the group consisting of silicon, germanium, semiconductors, insulators, organic materials, glasses, plastics, polymers, metals, ceramics, and mixtures thereof.

91. (New) A method according to claim 71, wherein said deposited columnar-void thin film is deposited by chemical vapor deposition, physical vapor deposition, plasma enhanced chemical vapor deposition, hot wire depostion, evaporation, sputtering, casting, spin coating, nebulization, and combinations thereof.

92. (New) A method according to claim 71, wherein said deposited thin film is a semiconductor selected from the group consisting of silicon, germanium, and their alloys and compounds.

93. (New) A method according to claim 72, wherein said sample is a gas, liquid, solid, or combination thereof found in at least one environment selected from the

group consisting of: general indoor environment, general outdoor environment, a process environment, and equipment environment.

94. (New) A method according to claim 72, wherein said sample is a cell, plurality of cells, tissue, components thereof, and combinations thereof.

95. (New) A method for the analysis of a sample comprising:

(a) applying a sample on a deposited columnar thin film; and

(b) analyzing said sample by a detection means selected from the group consisting of radiation-driven desorption/ionization mass spectroscopy, antigen-antibody recognition reaction techniques, colorimetric detection, atomic force microscopy, spectrographic analysis, enzyme reaction detection, electrical detection, chemical detection, and combinations thereof.

96. (New) A method according to claim 95, wherein said sample is selected from the group consisting of: organic chemical compositions, inorganic chemical compositions, biochemical compositions, drugs, drug metabolites, cells, cell components, micro-organisms, peptides, polypeptides, proteins, lipids, carbohydrates, nucleic acids, and mixtures thereof.

97. (New) A method according to claim 96, further comprising obtaining said sample from a fluidic system, micro fluidic system, nano fluidic system, a micro chromatographic system, a nano chromatographic system, a high-throughput isolation and preparation system, and combinations thereof.

98. (New) A method according to claim 95 wherein said deposited columnar film comprises (a) a network of columnar-like units; and (b) a substrate to which said network of columnar-like units is adhered.

99. (New) A method according to claim 95, wherein said deposited columnar thin film is selected from the group consisting of: semiconductors, insulators, organic materials, glasses, plastics, polymers, metals, ceramics and mixtures thereof.

100. (New) A method according to claim 95 further comprising the step of selecting said deposited columnar thin film using criteria selected from the group consisting of: laser-light reflection, optical absorption, sample species adsorption, absorption and desorption, ambient adsorption, absorption and desorption, and combinations thereof.

101. (New) A method according to claim 94, wherein said film is plasma depolsited and the spacing, height, physical and chemical composition of said network of columnar-like units are varied by adjustment of the deposition parameters selected from the group consisting of: voltage, current, voltage between plasma and substrate, substrate temperature, plasma power, process pressure, electromagnetic fields in the vicinity of the substrate, deposition gases and flow rates, chamber conditioning, substrate surface, and combinations thereof.

102. (New) A method according to claim 95, further comprising modifying said deposited columnar thin film prior to analyzing said sample by at least one process selected from the group consisting of: oxidation, silicidation, halidization, etching, ion implantation, hydrogen implantation, nitridization, and combinations thereof.

103. (New) A method according to claim 95, further comprising, physically or chemically modifying, surface functionalizing, or patterning said columnar-void thin film prior to analyzing said sample.

104. (New) A method according to claim 103, wherein patterning said columnar thin film is by: lithography comprising photolithography, probe, contact printing, imprinting, soft lithography; stamping; screen masking; printing or physically modifying said film or a subsequently positioned sample.

105. (New) A method according to claim 103 wherein said physical or chemical modifying comprises reaction with or adherence with at least one selected from the group consisting of: organic or inorganic compounds, cells, cell components, tissues, microorganisms and combinations thereof.

106. (New) A method according to claim 95, wherein analyzing said sample is by laser desorption-ionization, time of flight mass spectroscopy.

107. (New) A method according to claim 95, wherein prior to analyzing said sample, a signal enhancing agent is integrated with said sample.

108. (New) A method according to claim 107 wherein said signal enhancing agent is ammonium citrate.

109. (New) A method according to claim 95, wherein applying said sample to said continuous thin film is by either (a) absorbing from a solid, liquid or gas; or (b) directly applying to the surface of said deposited columnar-void thin film as a solid or liquid, or combination thereof.

110. (New) A method according to claim 109 wherein applying said sample to said columnar thin film is directly from, or integrated with, a chemical, physical, or electrical separation means, or combination thereof.

111. (New) A method according to claim 110 wherein said chemical, physical or electrical separation means is selected from the group consisting of liquid chromatography, gas chromatography, deposited thin film chromatography, size exclusion chromatography, affinity chromatography, gel electrophoresis, capillary or micro-capillary electrophoresis, blotting, and combinations thereof.

112. (New) A m thod according to claim 111 wh rein applying said sample to said columnar thin film directly from, or integrated with, a deposit d thin film chromatography separation means further comprises the step of:

(a) applying said sample to said deposited thin film chromatography separation means;

(b) allowing the analytes of said sample to migrate through or to interact with said deposited thin film thereby separating component analytes in said sample, and thereafter applying said analytes of said sample to said continuous deposited thin film.

113. (New) A method according to claim 112 wherein the said deposited thin film is chemically or physically modified prior to separating component analytes in said sample.

114. (New) A method according to claim 95, wherein said deposited columnar thin film is deposited on a substrate selected from the group consisting of silicon, semiconductors, insulators, organic materials, glasses, plastics, polymers, metals, ceramics, and mixtures thereof.

115. (New) A method according to claim 95, wherein said deposited columnar thin film is deposited by chemical vapor deposition, physical vapor deposition, plasma enhanced chemical vapor deposition, hot wire deposition, evaporation, sputtering, casting, spin coating, and combinations thereof.

116. (New) A method according to claim 95, wherein said deposited thin film is a semiconductor selected from the group consisting of silicon, germanium and alloys and compounds thereof.

117. (New) A method according to claim 96, wherein said sample is a gas, liquid, solid, or combination thereof found in at least one environment selected from the